U.S. ENVIRONMENTAL PROTECTION AGENCY
REGION IV
POLLUTION REPORT No. 47

Holtra Chem Chlor-Alkali Facility
One Industrial Drive
Riegelwood, Columbus County, NC

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DATE: March 16, 2004

I. BACKGROUND

Site No.:	A47J
Delivery Order No.:	N/A
Response Authority:	CERCLA
Incident Category:	**State Referral**
CERCLIS:	NCD097361018
NPL:	N
Site Category:	Industrial Chlor-alkali Facility
Responsible party:	Holtra Chem LLC, Honeywell Inc.

II. HISTORY

Refer to Action Memorandum, Consent Order, and previous POLREPs for site history.

III. SITUATION

Refer to initial and routine POLREPs for site situation.

IV. SITE ACTIVITIES

March 8 - 12, 2004 Work Period

OSC Carol Geraghty provided on-site oversight of Responsible Party (RP) removal activities during this work period. START and USCG-GST also provided on-site support to the project during this time. On-site support consisted of the following: one START member provided RP monitoring, site documentation, on-site real-time air monitoring, and off-site real-time air monitoring; and two USCG-GST members provided health and safety (H & S) oversight. The USCG-GST will be demobilized from the site at the end of the next work period rather than in two weeks due to a scheduling conflict. Temperatures ranged from the lower 30s to 40s as the daily lows and from the lower 40s to 60s as the daily highs. Overnight rain was experienced on Tuesday, March 9, 2004, and significant wind gusts were experienced on Wednesday, March 10, 2004.

At the beginning of the work period, the staffing level for URS, Honeywell's prime clean-up contractor, included three supervisors, one management/administrative staff, three H & S personnel, and 20 craft workers (laborers and operators). This labor pool included five new workers that attended the 8-hour site-specific training course presented on Monday, March 8, 2004. Two of five potential (reserve) workers scheduled for the class also showed up and attended the training. EPA approved the five new workers and one of the potential workers on Tuesday, March 9, 2004, once all required credentials were supplied. One of the new workers quit as of Wednesday, March 10, 2004, and one of the more experienced workers will be reassigned to a different project, bringing the total number of craft workers down to 18 as of the end of the work period. URS has not proposed replacing the lost staff as of the most recent 2-week look ahead schedule. An updated URS worker credential matrix was requested and received, and EPA inquired as to the status of an expired physical and several that will expire in several weeks. EPA also asked when the worker will be retrained who has an 8-hour hazwoper certificate that expires in a few weeks.

Baseline urine samples were collected for new workers on Tuesday, March 9, 2004, and monthly urine samples were collected for existing workers on Thursday, March 12, 2004, for biological monitoring of mercury. Results are expected back on Monday, March 22, 2004. Detectable levels of mercury had been identified in the urine samples of four URS workers during the February 2004 sampling event (as well as in an OMI worker). These workers had been participating in the highest exposure-risk task which consisted of hydrogen cooler draining and denuder draining and flushing operations. This task had been completed as of February 26, 2004, and it is anticipated that the urine levels for these workers will drop over time. In addition, several of these workers are now using small respirator masks due to previous complaints that facial sweat caused the masks to slip on their face. These workers were in Level B respiratory protection during this task.

Work activities during this reporting period included the following. URS continued to progress along a north to south direction with mercury cell preparation, foaming, and dismantling operations. As part of the mercury cell preparation activities, work crews pre-drilled foam injection holes in the denuders for Mercury Cell Nos. 14 - 1 (task now complete) and washed the protective sulphur layer from the bedplates of Mercury Cell Nos. 20 - 18. Drill-holes were immediately corked or taped to minimize any volatilization of residual mercury remaining inside. Addition of expanding foam to the interior and exterior of cell components has been a rate limiting task, and URS ordered a second foam application kit. Arrival of the kit has been delayed until Tuesday, March 16, 2004. One set-up will be dedicated to foaming the exterior of the bedplates and interior of the denuders prior to lowering to the floor, and the second set-up will be used for foaming the bedplate side channels and denuder exterior surfaces once staged on the Old Mercury Cell Building floor or on a flat bed trailer located within the building. Crews completed applying foam to the interior denuders of Mercury Cell Nos. 19 - 16, the exterior bedplates of Mercury Cell Nos. 18 - 16, the bedplate side channels of Mercury Cell No. 21, and the exterior of the denuders of Mercury Cell Nos. 22 and 21. The two previously lowered denuders from Mercury Cell No. 22 and all four pieces of Mercury Cell No. 21, which were lowered this week, were loaded directly onto flat bed trailers and removed from the building. The supporting steel from Mercury Cell Nos. 22 and 21 were also removed and temporary supports moved and replaced three cells back to Mercury Cell No. 16. Prior to lowering, bedplate and denuder bolts between Section Nos. 2 and 3 on Mercury Cell No. 21 were cut using a oxygen/propane torch, pneumatic tool, or sawzall. The foam and grids were cut along the central denuder gasket, and upon lowering and inspecting, a blank flange was applied to the open ends. The hydrogen cooler for Mercury Cell No. 21 was also removed once the bedplate sections had been lowered and before lowering the denuder. The miscellaneous supporting steel and hydrogen cooler components were placed into hazardous-macro boxes.

EPA requested weight data for foam applied to the denuders and was informed that two of the denuders contained less than the calculated weight for filling the void-space a minimum of 90 percent (per the disposal variance). The calculated weight was estimated at 316 pounds, and the denuders where data was available contained the following interior foam weights: Mercury Cell No. 22 = 329 lbs.; No. 21 = 321 lbs.; No. 20 = 323 lbs.; No. 19 = 283 lbs.; No. 18 = 213 lbs.; and No. 17 = 321 lbs. Based on the low weights for two denuders, a URS engineer provided a revised estimate for the 90 percent fill weight (288 lbs.) using the minimum possible density. This calculation was based on the assumptions that the foam would be free-flowing and the volume affected by temperature. These assumptions are not considered acceptable by EPA based on manufacturer technical data and field observations involving temperature deviations. EPA also raised concerns that the ratio of Part A to Part B significantly varied between the applications and requested technical data be obtained from the manufacturer regarding the effects on foam density and integrity when the ratios are above or below optimal conditions. URS has contacted the manufacturer's representative and will be working with their laboratory to find out additional information on ratio deviations, temperature effects, filling densities, and better techniques for dispensing foam. They also interviewed the foam injection workers for deviations in their technique and drilled additional test holes into the low weight denuders to look for any void spaces. The worker tasked with applying the foam thought he may have forgotten to ask for the weights to be recorded when filling the end casting of one of the denuders (could account for

50 lbs. of weight). From the test holes, URS identified that there were indeed void spaces and re-foamed those areas. This issue will be discussed with Honeywell/URS in greater detail next week once additional data has been obtained. EPA indicated that no denuder may be transported off site with less than 316 lbs. of foam until/unless compelling data is presented supporting why this value should be reduced.

URS work crews began loading sideliners, fiberglass, and other miscellaneous debris from the Retort Pad into construction debris boxes or non-regulated boxes as required. It is anticipated that the Retort Pad will be used as a decontamination location since the ultimate status of the Central Decontamination Pad (CDP), damaged by the water main break, has not fully been resolved. URS also continued to operate the Waste Water Pre-Treatment Unit (WWPTU). WWPTU operators batched and discharged water to the Waste Water Treatment Plant (WWTP) and cleaned the filter presses.

OMI continued to process and discharge water from the WWTP to the International Paper (IP) outfall. Operations were suspended mid-week due to a lack of water. A total of 569,530 gallons of water had been processed and 469,365 gallons had been discharged to IP during March 4 - 11, 2004. OMI workers began marking pipes to be retained in the Process Area and repaired loose barriers and signs around the site. A minor wash-out had occurred on the west side of the North Rainwater Pond and a silt fence and fill dirt were added. OMI also readied the five one-metric ton mercury DOT shipping containers, and the containers were transported off site for reuse on Thursday, March 11, 2004. In total, two flat bed trailers loaded with denuder and bedplate sections, one 20-yard hazardous-macro box, and five one-metric ton cylinders of elemental mercury were transported off-site for reuse or disposal during the week. New tarps were brought with the flat bed trailers this week and greatly reduced the time needed to ready the shipment for transport. Additional flat bed trailers, macro boxes, and construction debris boxes were also dropped off during the week. MacTec will be preparing a matrix to document which cell components are transported on which trailers. This matrix will be issued at the end of each work period.

Work activities at the site have fallen slightly behind schedule and URS provided Honeywell with a revised detailed project schedule and recovery plan last week. The recovery plan includes proposals for increased operations and additional work days. Limited work activities were conducted on Friday, March 12, 2004, of this week to catch up on foaming operations. EPA requested that a minimum one-week notice be provided when scheduling additional supplemental work days. A second foam application kit was purchased to expedite the rate limiting step, and work in the Process Area will be initiated next week ahead of schedule. This work will include use of a manlift to remove pipes from three of the remaining pipe racks. As a side task, URS will use the manlift on Monday, March 15, 2004, to remove some of the loose building panels that were flapping dangerously during the high winds experienced mid-week. The recovery plan projects that the project will be back on schedule (i.e., an October 19, 2004 demobilization date) by March 16, 2004.

Site visitors this week included representatives from Southern Industrial Contractors (SIC), Kuehne Chemical (Kuehne) and Quality Thermoplastics (QTS), and IP. SIC was on site

Thursday, March 11, 2004, and met with OMI to evaluate the switch gear room and electrical power substations due to oil level and pressure concerns. SIC will be using a properly trained subcontractor to make the repairs which could result in a temporary power interruption at the site. Kuehne owns the building materials and equipment associated with the New Membrane Building, and QTS is a potential buyer. OMI and the Honeywell Project Coordinator (PC) escorted the representatives of Kuehne and QTS to that area on Tuesday, March 9, 2004, to examine their property. No request for site access has been made to EPA regarding this material since the previous dismantling operations were shut down early last year. Lou Mattes, IP Safety Director, and Bill Landry of the IP Environmental Department, met with EPA, the Honeywell PC, the Site H & S Manager, OMI, USCG-GST, and START on Tuesday, March 9, 2004, to discuss the chlorine dioxide incident that occurred last week and resulted in implementation of our Emergency Action and Response Plan (EARP). IP indicated that the cause of the release was the simultaneous restart of the chlorine dioxide plant and a fan for the sulphur dioxide scrubber which had recently been repaired. This action caused a temporary pressurization of Tank No. 8 and an estimated 0.81 lbs. of chlorine dioxide was released from the pressure release lid in small puffs over several minutes. IP indicated that since the operator was in the plant and not in the control room, he did not immediately hear the alarm. They could not explain why we were unable to communicate with the operator by radio since frequent tests of the radio, as well as the back-up hardline system were conducted. OMI personnel notified IP of the release by going to the near-by guard shack. EPA asked that IP move some of the existing monitors previously used to monitor a now obsolete rail loading station in a better position to alert workers at the Holtra Chem site of a release from either the top or bottom of tanks in the nearby tank farm. EPA also asked if we could be notified upon plant start-up for a heightened alert level. IP will take these suggestions under advisement and will also definitely connect the fence-line monitor into their control room. IP also replaced the six hand-held chlorine dioxide and sulphur dioxide monitors that had been issued to OMI for use at this site with freshly calibrated units. A report is expected to be released from IP early next week with full details of the incident and the corrective measures they have taken and intend to take in the future.

EPA received a request to deviate from Job Safety Analysis No. 9 (JSA-009) and provided approval after concerns were addressed. The deviation included changes in the foam cure times and limiting weight measurements to the denuders only. EPA also suggested and approved use of the bench-scale portable foam kit for small patch jobs on the component exteriors. JSA-011 involving the brine saturators was placed on hold due to conflicting views between Honeywell and URS on the approach. EPA asked that Revision 1 of Amendment 1 of the Site H & S Plan include lessons learned from the IP release as well as alternate procedures for fighting fires due to a loss of the water main and fire hydrants. Honeywell and the Site H & S Manager are currently discussing ideas, but intend to include in their proposal placement of respirators and chemical cartridges at rally points, identifying shelter-in-place and off-site rally locations, and maintaining respirator masks for visitors. EPA discussed the previous air sampling data with the Site H & S Manager and we both agreed that passive samplers would no longer be used. Data for potential downgrade of the Old Mercury Cell Building and the northwest corner is pending and will be discussed on March 16, 2004. EPA has not yet provided comments to the revised full-scale expanding foam report or the air sampling plan previously provided. EPA and URS agreed that the “cavern” formed underneath the CDP from the previous water main break could be left

unfilled as long as the area was barricaded from access and the foundation of the adjacent building tested for stability. The stability test is anticipated for early April once heavy equipment is mobilized to the site.

Area and personnel air sampling was conducted on a limited basis this week. Real-time air monitoring was conducted by URS and/or START inside the hot zone, outside of the perimeter, and at off-site locations. Mercury Cell Building air concentrations of mercury ranged from zero to 0.242 mg/m3, and exclusion zone perimeter concentrations of mercury ranged from 0.000015 to 0.0201 mg/m3. Off-site community perimeter air concentrations of mercury ranged from 34 to 82 ng/m3 (the instrument detection limit is 10 ng/m3). Due to slightly elevated readings inside of the Contamination Reduction Zone (CRZ), URS will be evaluating options for increasing circulation in that area.

V. FUTURE ACTIVITIES

OSC Carol Geraghty will provide on-site oversight during the next two work periods. OSC Barbara Scott will be on site a few days next week for project overlap. She will be providing back-up OSC support for this project. USCG-GST will be demobilizing at the end of the next work period due to schedule conflicts.

Site work planned for next week includes the following: resolving foaming issues and implementing corrective measures; dismantling Mercury Cell No. 20 and placing components on flat bed trailers; removing the structural supports; continuing to wash protective sulphur from the bedplates; foaming the interior and exterior of components; installing temporary supports as needed; filling macro and construction debris boxes; removing loose side panels on the Old Mercury Cell Building; initiating pipe removal work in the Process Area; and continuing with WWPTU/WWTP operations.

VI. COST DOCUMENTATION

1. ERRS Ceiling: $50,000.00
   Estimated Amount Spent: $12,780.58 (as of 3/12/04; one additional 1900-55 is anticipated for project close-out reporting)

2. USCG-GST Ceiling: $40,000.00
   Estimated Amount Spent: $33,948.79 (as of 3/12/04; USCG to be demobilized on 3/19/04)

3. START Ceiling: $424,000.00 (includes a $25,000 increase)
   Estimated Amount Spent: $315,500 (as of 3/12/04)

VII. DISPOSAL SUMMARY

Disposal Summary for Week of March 8 - 12, 2004			
Waste Stream	Disposal Destination	Quantity Shipped This Week	Quantity Shipped To Date
Hazardous - Variance Debris	Waste Management - Emelle Treatment Facility Emelle, AL	(2) flat bad trailers (approx. 40,000 lbs.)	(4) flat bed trailers (approx. 85,000 lbs.) (0) dump trucks (0 lbs.)
Hazardous - Micro	Waste Management - Emelle Treatment Facility Emelle, AL	None	(2) 20-yd boxes (11) 25-yd boxes
Non-Regulated Material (Directly Land Filled)	Waste Management - Emelle Treatment Facility Emelle, AL	None	(2) 20-yd boxes (22) 25-yd boxes
Hazardous - Macro (Including ACM Hazardous)	Waste Management - Emelle Treatment Facility Emelle, AL	(1) 20-yd box	(35) 20-yd boxes
D009 (Wastewater Filter Cake)	EQ - Michigan Disposal Waste Treatment Belleville, MI	None	(4) 25-yd boxes (4) 30-yd boxes
ACM (Non-Haz)	Anson Waste Management Facility Polkton, NC	Task Complete	(3) 40-yd boxes
Non-Haz Construction Debris	Sampson Co. Disposal Facility Roseboro, NC	None	(21) 30-yd boxes (149,260 lbs.)
Non-Haz Scrap Metal	Southern Metals Recycling Wilmington, NC	None	(35) boxes (501,946 lbs.)
Non-Haz Scrap Titanium	Southern Metals Recycling Wilmington, NC	None	(1) 10-yd box (3,890 lbs.)
Non-Haz Scrap Copper	Southern Metals Recycling Wilmington, NC	None	(5) 5-yd boxes (2) 10-yd boxes (94,520 lbs.)
Non-Haz Scrap Stainless Steel	Southern Metals Recycling Wilmington, NC	Task Complete	(1) 20-yd box (3,500 lbs.)
Reclaimed Elemental Mercury (for Reuse)	Goldsmith Evanston, IL	(5) one-metric-ton cylinders (approx 10,000 lbs.)	(15) one-metric-ton cylinders (approx 30,000 lbs.)